

REMARKS**Status of the Claims**

Claims 17-23, 25, 27-34, and 43-52 are pending in the present application. Claim 19 is currently amended. In light of the amendments, and the remarks herein, reconsideration of claims 17-23, 25, 27-34, and 43-52 is respectfully requested. A request for continued examination is being filed herewith.

Amendments to the Claims

To expedite prosecution of this application, Applicants present the following amendments without prejudice. Standing alone, such amendments are not intended to indicate the Applicant's agreement with the Examiner's basis for objection to or rejection of any of the claims. Applicants maintain the right to pursue any of the filed claims in one or more continuing applications.

Claim 19 is amended to recite "irradiating the portion of the tooth with electromagnetic radiation having at least one wavelength range corresponding to the absorption spectrum of a stain in the tooth, wherein the at least one wavelength range corresponding to the absorption spectrum of the stain is not transmitted through an exogenous oxidizing compound." Support for the amendment can be found throughout the specification, particularly at paragraphs 152-166, including paragraph 164.

Claim Rejections - 35 U.S.C. § 102

Claims 19-23, 27-34, 43-45 and 49-51 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,416,319 to Cipolla (herein "Cipolla"). These claims are not anticipated by Cipolla, however, because Cipolla fails to disclose all of the elements recited in the claims as amended. For example, Claim 19 recites "irradiating the portion of the tooth with electromagnetic radiation having at least one wavelength range corresponding to the absorption spectrum of a stain in the tooth" and, as amended, further recites that the "wherein the at least

one wavelength range corresponding to the absorption spectrum of the stain is not transmitted through an exogenous oxidizing compound."

Cipolla does not disclose these elements of the claimed invention. Cipolla instead discloses "novel tooth whitening compositions." (Cipolla Col. 1, lines 11-14.) In most embodiments disclosed by Cipolla, the whitening compositions contain two components: a photosensitizing agent and an oxidizing compound. (Cipolla Col. 1, lines 25-50.) Cipolla discloses that, in irradiating the photosensitizing agent, light "enhance[s] the ability of the oxidizing compound in the whitening compositions to effect rapid tooth whitening." (Cipolla Col. 1, lines 25-35.) Thus, in Cipolla, a photosensitizing agent is generally used to accentuate the whitening achieved using an exogenous oxidizing compound.

However, the embodiment of Cipolla to which the Examiner refers is different. In the embodiments cited as the basis of the rejection (see Cipolla Col. 5, lines 36-42), a chromogen in the tooth serves the role of the photosensitizer, and an exogenous photosensitizer is either not used or is used to supplement the photosensitizing role of the chromogen. In those embodiments, Cipolla discloses the use of a transparent oxidizing compound. Due to its transparency, the light is able to pass through the oxidizing compound, and irradiate chromogens in the teeth. (*Id.*) The irradiated chromogens then serve as the photosensitizer, working in conjunction with the oxidizing agent. Cipolla provides a detailed explanation of this process at Col. 9, lines 31-65. The light that passes through the transparent oxidizing agent raises the energy state of the electrons in the irradiated chromogens. (*Id.*) Due to their higher energy states, the chromogens are "more easily attacked by oxidizing agents." (Col. 9, lines 60-65.) Thus, though an exogenous photosensitizer may be absent in these embodiments, the whitening composition that is applied to the tooth still contains an oxidizing compound to "attack" the chromogen and thereby whiten the teeth. (*See id.*)

In contrast to Cipolla, Applicants claim a process that does not require the use of a transparent oxidizing agent. Instead, in Claim 19, a tooth is irradiated without transmitting the electromagnetic radiation through an oxidizing compound as disclosed in Cipolla.

Claims 20-23, 27-34, 43-45 and 49-51 are patentable for at least the same reasons that claim 19 is patentable. Accordingly Claims 19-23, 27-34, 43-45 and 49-51 are patentable over Cipolla.

Claim Rejections - 35 U.S.C. § 103

Claims 17, 18, 25, and 46-48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Cipolla in further view of U.S. Patent 6,106,293 (herein “Wiesel”) and claim 52 is rejected as being unpatentable over Cipolla. The Applicants disagree with the Examiner’s application of Cipolla and Wiesel to these claims. However, these claims are not obvious in light of the cited art, at a minimum, because neither reference discloses all of the elements of independent Claim 19, from which each of the claims depend. Therefore, Applicants submit that Claims 17, 18, 25, 46-48, and 52 are patentable over the cited art.


CONCLUSION

In view of the amendments and remarks above, Applicants submit that Claims 17-23, 25, 27-34, and 43-52 are in condition for allowance, and allowance thereof is respectfully requested. Applicants encourage the Examiner to telephone the undersigned in the event that such communication might expedite prosecution of this matter.

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Respectfully submitted,

By: _____


Thomas J. Engellenner
Registration No. 28,711
NUTTER MCCLENNEN & FISH LLP
World Trade Center West
155 Seaport Boulevard
Boston, Massachusetts 02210-2604
(617) 439-2000
(617) 310-9000 (Fax)
Attorney for Applicant

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